

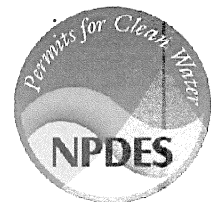


Regulatory Requirements for NMP Permit Terms

Part II

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Session Topics

- Flexibility of the narrative rate approach & understanding substantial changes
- Permit Terms for the Narrative Rate
 - Maximum Amount of N and P from all sources
 - Utilizing a Phosphorus Site Index



Substantial Permit Changes

- The narrative rate approach allows for implementation of the NMP to differ from what was anticipated when the plan was submitted for permit coverage
 - Permit Modifications vs. Substantial Permit Modification which include:
 1. Addition of new land application areas not previously included in the CAFO's NMP.
 2. Addition of any crop not included in the terms of the CAFO's NMP and corresponding field-specific rates of application.
 3. Any changes to the maximum field-specific annual rates of application
 4. Changes to field-specific components of the CAFO's NMP, where such changes are likely to increase the risk of nitrogen and phosphorus transport from the field to waters of the United States.



Risk Assessment Tools

- The field-specific risk assessment provides CAFOs with the information needed to determine the rates that manure nutrients should be applied
 - Intrinsically linked to the maximum amount of nutrients to be applied
- A Phosphorus Site Index as State Risk Assessment Tool
 - The factors considered in calculating a P-Index often include variables that fluctuate over time (application rates, methods of application, timing of each application, conservation practices implemented, crops)
 - Over the course of a 5-year permit cycle, a P-Index risk rating could theoretically fluctuate from a low to high risk on a single field.
 - The linear approach inherently accommodates the variation in risk over the life of the permit because the NMP reflects the actual crops and associated manure application rates that will be used.



Permit Terms for P-Index

- Two Approaches – linear and narrative rate
- Example:

In a CAFO's NMP, Field A results in the following risk ratings and associated nutrient basis for land application:

Field	Year	Crop	Risk	Recommend Rate Basis
1	2010	Corn	Medium	N-based Application
	2011	Soybean	Medium	N-based Application
	2012	Corn	High	1 times crop P removal
	2013	Soybean	High	1 times crop P removal
	2014	Corn	Medium	N-based Application

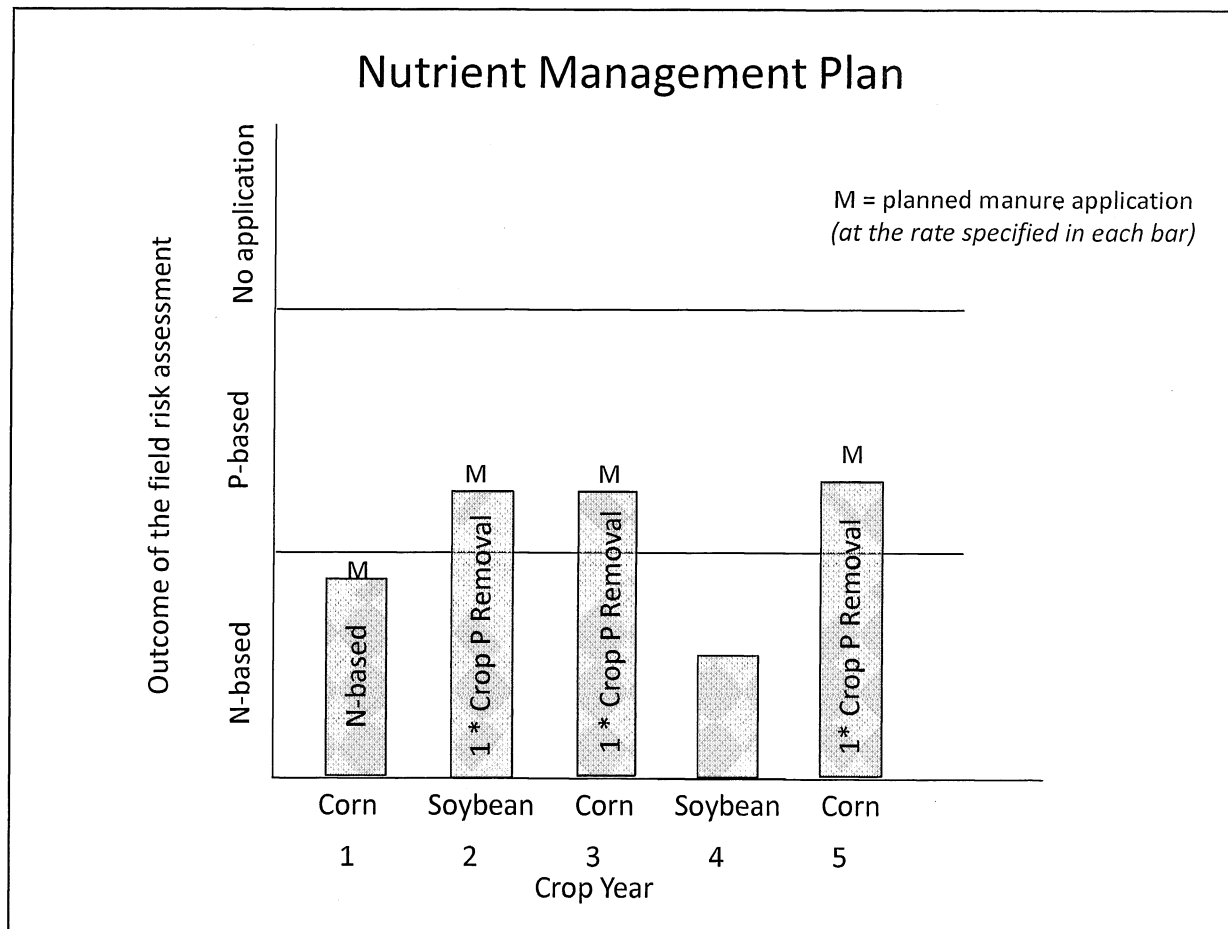
Alternative option for permit term:

Field	Risk	Recommend Rate Basis
1	High	1 times crop P removal



Permit Terms for Maximum Amount of N & P From All Sources

- The outcome of field-specific risk assessment is used to determine the appropriate limiting nutrient for developing land application rates.
- However, in the narrative rate approach, the term **maximum** amount of N and P from all sources should not be exclusively dependent on the outcome of the field-specific risk assessment for the potential for N and P transport
 - *Potential to trigger substantial permit changes with any change if a P-Index is used*
- Maximum amount of N – Crop N recommendation not to be exceeded
- Maximum amount of P – based on the P applied in the year with the lowest risk



- Corn (from year 1)
 - Maximum amount of N = Corn N recommendation
 - Maximum amount of P = The amt of P in N-based application will depend on the source of manure used
- Soybeans (from year 2)
 - Maximum amount of N = Soybean N recommendation – will depend on if state allows N application on soybeans and if operator chose to apply any N
 - Maximum amount of P = 1 times the crop removal for soybeans